



**Catawba County
Building Services
Division**

INFO FOR CUSTOMER SUCCESS

**Residential
Aircraft Hanger**

Guide Sheet

#001

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Issued Mar 2006

Expires: Code Change

RESIDENTIAL AIRCRAFT HANGER

- In order to be considered a residential aircraft hanger, the hanger must meet all three of the criteria listed below. If not meeting the criteria of a residential hanger, the hanger shall be constructed as required for an S-2, aircraft hanger per the current NC Commercial Building Code.
 - An accessory building constructed on a one – or two- family residential property
 - Less than 2,000 square feet
 - Less than 20 feet in height
- If attached to a dwelling, the hanger shall be separated by walls having a fire-resistance rating of not less than 1-hour. Such separation shall be continuous from the foundation to the underside of the roof and shall be un-pierced except for doors leading to the dwelling unit. Openings from the hanger into a room used for sleeping purposes are not permitted.
- Doors into the dwelling unit that separate the dwelling unit from the residential aircraft hanger must comply with the following:
 - Equipped with self-closing devices
 - ¾ hour rated assembly
 - Minimum 4" noncombustible raised sill
- If detached, the hanger shall require a 1-hour fire-resistance-rated exterior wall if fire separation distance is less than 3 feet from the property line or any other building on the same property.
- A hanger shall provide two means of egress. Only one door into the dwelling shall be considered as meeting one of the two means of egress.
- A minimum of one listed smoke alarm shall be installed within the hanger and shall be interconnected into the residential smoke alarm or other sounding device that will be audible in all sleeping areas of the dwelling. This requirement is applicable to attached and detached residential hangers.
- Mechanical and plumbing systems installed within the hanger shall be independent of the systems installed within the dwelling. Building sewer lines may connect outside the structures.



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AIRCRAFT HANGER

- An aircraft hanger that does not meet the criteria of a residential aircraft hanger requires plan review. Documents submitted for plan review shall bear the North Carolina seal of a registered design professional and shall include the following:
 - 4 complete sets, 5 complete set if fire suppression or fire alarm systems are required
 - Appendix B
 - Site plan
 - Structural drawings
 - Architectural drawings
 - Plumbing, Mechanical and Electrical drawings
- Aircraft hangers shall be considered an S-2 occupancy and shall comply with section 412.2 and all other applicable sections of the NC Commercial Building Code to include but not limited to the following;
 - Exterior walls located less than 30' from property lines shall have a fire-resistance rating not less than 2-hours.
 - If located on the same lot as a one- or two- family dwelling, the hanger shall be separated from the residential building as follows;
 - (Attached) 2-hour fire resistant rated construction, 1-1/2 hour rated door assembly.
 - (Detached with less than 20' separation distance between hanger and dwelling unit) 1 to 2 hr fire rated walls and openings based on the location of the assumed property line.
 - (Detached and 20' or more separation distance between hanger and dwelling unit) no rating required.
 - Heating equipment shall be placed in another room separated by 2-hour fire-resistant rated construction. Entrance shall be from the outside or by means of a vestibule with a two-doorway separation. See exceptions below.
 - Unit heaters suspended at least 10 feet above the upper surface of wings or engine enclosures of the highest aircraft that may be housed.
 - A single interior door shall be allowed, provided the sources of ignition in the appliances are at least 18" above the floor.

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- Floor surfaces shall be graded and drained to prevent water or fuel from remaining on floor.
- Fire suppression shall be required as follows;
 - Any hanger having an aircraft access door exceeding 28 feet in height.
 - Any hanger exceeding one story in height.
 - Any hanger where hazardous operations including fuel transfer, welding, torch cutting, torch soldering, doping or spray-painting are performed.
 - Any hanger of type VB construction (noncombustible construction) with a fire area exceeding 5,000 square feet.
 - Any hanger of type IIB construction (noncombustible construction) with a fire area exceeding 12,000 square feet
 - For hangers not complying with the above types of construction or exceeding the above limitations, the designer should reference NFPA 409 for fire suppression requirements.

Notes:

Electrical wiring materials and methods shall comply with article 513 of the current National Electrical Code.

Refer to Environmental Health and Zoning for additional requirements.

This Guide Sheet is based on the 2006 NC Building Code.